MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

ENVIRONMENTAL ASSESSMENT: PROGRAMMATIC REVIEW
New Air Quality Registration Program
Crushing and Screening, Concrete Batch Plants, and Asphalt Plants

AIR, ENERGY & MINING DIVISION
Air Quality Bureau

NAME OF PROJECT: Air Quality Registration Program for the Nonmetallic Mineral Crushing and Screening, Asphalt Plant, and Concrete Batch Plant Industries (herein referred to as "the registration program")

TYPE OF PROJECT: New regulatory program replacing existing permitting/regulatory program

LOCATION OF PROJECT: Statewide, other than Reservation Lands or County/Local areas with alternative air quality permitting/registration programs approved by the Board of Environmental Review

DESCRIPTION OF PROJECT: The Board of Environmental Review ("BER") is proposing to replace existing minor source air quality permitting with an Air Quality Registration Program for the nonmetallic mineral crushing and screening, asphalt plant, and concrete batch plant industries. The Montana Department of Environmental Quality ("DEQ") has identified an opportunity to maintain equivalent or better ambient air quality protections in a more effective and efficient manner by prescribing air quality requirements in rule rather than in individualized permits. For an expanded description, see the **Summary of Issues** section and description of the **Proposed Action** below.

AGENCY ACTION AND APPLICABLE REGULATIONS: DEQ would apply the registration program under authority of the Montana Clean Air Act and the regulations listed below:

Montana Clean Air Act Title 75, chapter 2, parts 1, 2, and 4, Montana Code Annotated (MCA)

Administrative Rules of Montana (ARM) Title 17, chapter 8, new subchapter 18, New Rules I-X.

In addition, the following existing air quality rules would apply concurrently to the source categories for which this registration program would apply:

ARM Title 17, chapter 8, subchapter 1: General Provisions

ARM Title 17, chapter 8, subchapter 2: Ambient Air Quality

ARM Title 17, chapter 8, subchapter 3: Emissions Standards

ARM Title 17, chapter 8, subchapter 5: Air Quality Operation Fees

SUMMARY OF ISSUES: The BER's current air quality regulatory schema for the crushing and screening, asphalt plant, and concrete batch plant source categories requires individualized responses (permits) to individualized permit applications, in accordance with processes and timeframes required by statute. However, the DEQ has found through decades of case-by-case review, since the inception of the Montana Clean Air Act, that the resulting air quality control performance requirements and allowable air quality impacts to any one location by any one owner/operator have remained largely identical across hundreds of permits issued for these source categories.

The current air quality permitting process and associated administrative burden inherent in case-by-case review has not resulted in air quality protection exceeding that which could be achieved through a more streamlined and less resource intensive approach. This review presents and assesses the potential environmental impacts of a new air quality registration program that would take the place of case-by-case permit review for new and existing facilities that fall into the crushing and screening, asphalt plant, and concrete batch plant source categories. Under such a program, registration eligible sources would be "permitted" to operate after 15 days had elapsed following registration, and the development of individualized permits would not be required.

The proposed registration program would impose emissions control standards, operational standards, and other limitations in a nondiscretionary, prescribed manner. As such, unlike current air quality permitting, the DEQ would not take action to approve, deny, or modify a registration. Instead, the DEQ would acknowledge the registration and the associated commitment by the signatory to comply with all applicable regulations. Registered sources of air emissions could begin to operate under the program 15 days after registration and coverage would be effective so long as the source continued to meet eligibility criteria and complied with all applicable requirements. The DEQ has determined that acknowledging a registration is a 'ministerial action' as defined in the Administrative Rules of Montana (ARM) 17.4.607(5)(e). Therefore, a Montana Environmental Policy Act (MEPA) review would not be required for each registration. However, the DEQ has determined that a programmatic MEPA review of this new regulatory program is appropriate in this situation.

PROJECT DEVELOPMENT:

1. **Public Involvement**

   The BER will hear testimony on the registration program at its meeting on December 7, 2018, and decide whether to initiate rulemaking on New Rules I through X. If the BER initiates rulemaking, a Notice of Public Hearing on Proposed Adoption would be

published in the Montana Administrative Register, announcing both a public comment period and a public hearing for the receipt of written and oral testimony. All comments received during the comment period would be addressed by the BER at a future meeting, at which the BER would decide whether to adopt the rules.

DEQ conducted several outreach and stakeholder meetings during program development. DEQ initially formally introduced the development of this program as a top priority via the Clean Air Act Advisory Committee (CAAAC) meeting on September 27, 2016. The DEQ presented updates to and solicited input from CAAAC on several occasions, including at meetings on: May 18, 2017; November 16, 2017; May 22, 2018; and September 12, 2018. The DEQ held a follow-up meeting with the Montana Environmental Information Center on August 27, 2018, to address specific questions.

The DEQ also presented at the Montana Contractor's Association Annual Convention on January 10, 2018, in Kalispell, MT, during the early stages of program development and solicited interested parties for a technical project workgroup. The DEQ shared the same information with its Opencut Stakeholders at a meeting held on January 17, 2018, in Helena, MT.

Following these presentations, the DEQ convened a technical workgroup consisting of interested stakeholder volunteers, and meetings were conducted on March 22, 2018; May 15, 2018; and October 23, 2018. At these meetings, the DEQ presented updates on program development and sought feedback on technical details and program requirements.

The DEQ also held a meeting with air quality staff from the counties that administer local air pollution control programs on August 9, 2018, which included updates and discussion of the proposed registration program. Additional informal conversations with interested parties as well as the Environmental Protection Agency occurred sporadically over the course of program development. The DEQ considered feedback from all stakeholder meetings and communications during the drafting of the proposed new rules.

2. Alternatives Considered

No Action Alternative: The No Action Alternative represents a continuation of traditional case-by-case permitting as it is currently implemented for the affected source categories. The No Action Alternative would continue case-by-case review of emissions and impacts.

The discussion below generally describes how emissions are controlled for each source category potentially affected by this project. As discussed, these controls apply to the current program, as well as the proposed program.

a. Crushing and Screening Operations:

Particulate matter emissions are created by crushing, screening, and conveying equipment. The quantity of potential uncontrolled emissions of particulate matter from these operations may be significant; however, actual emissions can be well controlled with the appropriate air pollution control technology.

The moisture content of the material processed has a substantial effect on emissions, and increasing material moisture content provides an economical means of emissions control. Surface wetness causes fine particles to agglomerate on or to adhere to the faces of larger stones, resulting in dust suppression. However, as new fine particles are created by crushing and attrition and as the moisture content is reduced by evaporation, this suppressive effect diminishes. Facilities that use wet suppression systems (spray nozzles) to maintain material moisture as needed throughout the process can effectively control particulate matter emissions throughout the process. Based on the Environmental Protection Agency's compilation of emissions factors for this source category, over a 92% control efficiency of fine particulates is achieved in employing such emissions control techniques.

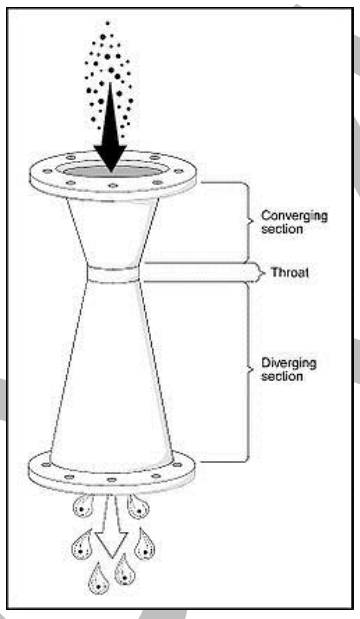
The pictures on the following page show the difference in dust when water spray nozzles are used (photo on the left) or not used (photo on the right) at a material transfer point. The application of additional water at this point minimizes the amount of dust that would otherwise be released when transferring the material, resulting in almost no visible emissions.

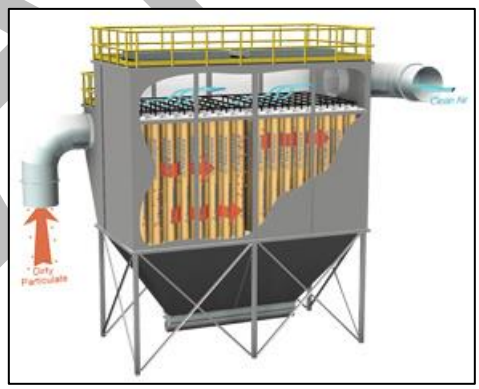
Existing emissions control requirements such as the New Source Performance Standards at 40 CFR Part 60 Subpart OOO and the generally applicable control requirements of ARM 17.8.304 require control such that applicable opacity standards are met.

b. Asphalt Plants:

Asphalt plants have both ducted emissions and fugitive emissions. Pre-production fugitive dust sources include vehicular traffic generating fugitive dust on paved and unpaved roads, aggregate material handling, and other aggregate processing operations. Ducted emissions include emissions from the dryer, and usually mixing equipment. Most plants use either a fabric filter or a venturi scrubber for emissions control of ducted emissions. Any plant modified or constructed after June 11, 1973, is subject to the requirements of the New Source Performance Standards of 40 CFR Part 60 Subpart I. The performance standard required is 0.04 grains of particulate per dry standard cubic foot of ducted exhaust flow.

Venturi scrubbers are a type of wet scrubber in which particulates are captured via interception with atomized water droplets. An illustration is provided below left. Fabric Filters, also called Baghouses, filter particulate out of the air by passing the exhaust through tightly woven fabric. An illustration is provided below right.





Both of these technologies are able to achieve the 0.04 grains per dry standard cubic foot performance requirement. Asphalt plants would typically utilize one of these two technologies to operate in compliance with applicable requirements. Based on the EPA's controlled and uncontrolled emissions factors for asphalt plant dryer emissions, these technologies achieve 99% and better control of particulate emissions in these applications. These technologies currently achieve a high level of control and are not expected to improve significantly in the future. While the New Source Performance Standard sets emissions control performance

requirements, it does not provide a cap on overall mass of emissions allowable from a plant site.

Fugitive emissions are controlled largely by application of water and/or dust suppressant. In the same manner as described above for crushing and screening operations, water and/or dust suppressant used on haul roads and unpaved areas, as well as during material handling as needed, provides effective control of fugitive dust emissions.

Uncontrolled Dust from Access Road:

Employing dust control:

c. Concrete Batch Plants:

For this source category, particulate matter consisting primarily of cement and pozzolan (silicate based materials) dust, but including some aggregate and sand dust emissions, is the primary pollutant of concern. Most of the emission points are fugitive in nature; that is, they are not point sources. Point sources include the transfer of cement and pozzolan material to silos, and these are usually vented to a fabric or cartridge filter system. Fugitive sources include the transfer of sand and aggregate, truck loading, mixer loading, vehicle traffic, and wind erosion from sand and aggregate storage piles. Pickup devices are often required at material drop points and emissions must be vented to a fabric or cartridge filter. The amount of fugitive emissions generated during the transfer of sand and aggregate depends primarily on the surface moisture content of these materials as described in the crushing and screening section. [Sec. 2(a)].

Under the current permitting program and in the no action alternative, any asphalt or crushing and screening facility with the potential to emit more than 15 tons per year of any regulated pollutant, or any concrete facility with the potential to emit more than 25 tons per year of any regulated pollutant, requires submittal of a permit application, pursuant to the ARM Title 17, chapter 8, subchapter 7. The application must contain the information required by statute and subchapter 7 to be determined complete. The DEQ must make a determination on application completeness within 30 days. A preliminary determination is issued within 40 days of a complete application.

The DEQ conducts a case-by-case review during this time, which includes, but is not limited to, reviewing and determining the requirements of ARM 17.8.745 (Best Available Control Technology), clearly identifying and appropriately limiting each piece of equipment to be permitted (usually limits are reflective of maximum capacity operating at 8,760 hours per year), identifying applicable requirements, drafting a MEPA review in consultation with other agencies and/or bureaus as appropriate, and posting the draft permit to DEQ's website, with appropriate notices made. The public comment period on the preliminary determination is 15 or 30 days, depending on whether the permit requires emission limits specifically to avoid a Title V operating permit. Following the public comment period, the permit is posted to DEQ's website, with appropriate notices made, for a 15-day appeal period, followed by a website posting of a final permit. It should be noted that throughout decades of implementing this review process, DEQ has not modified air quality requirements in a portable source permit as a result of a MEPA review.

These air quality permits allow for portable operations, meaning the equipment associated with any permit may be moved around the state. Permits also allow flexibility to allow an owner or operator to combine pollutants from permitted operations at any location, up to 250 tons of emissions per year. Air quality impacts are assessed and the MEPA review is conducted based on the information submitted in the application. However, because the equipment is portable and the permits allow flexibility to accommodate different configurations of equipment, the initial operations (location and/or configuration) described in the application do not necessarily reflect actual operations on the ground. However, by statute (75-2-211(5), MCA), no additional MEPA review is required for changes of location. A notice to the DEQ is required prior to transfer of location, but currently no confirmation of location is required following transfer.

Proposed Action: The registration program would provide an alternative means of protecting ambient air quality in a manner that decreases administrative burden in applying air quality protections while achieving the same or improved level of protection compared to the No Action Alternative. As described in the following paragraphs, the Proposed Action would provide certainty in the air quality related requirements to be expected for an owner/operator of registration eligible units, and provide coverage and ability to lawfully operate under the Clean Air Act fifteen (15) calendar days following registration. The DEQ would be able to reassign the resources typically associated with permit development to other needs.

Similar to current permitting practices described under the No Action Alternative, the registration program would require control of emissions to standards representative of the maximum degree of reduction technically and economically achievable. The difference is that controls would be required by rule and not be reviewed and

determined on a case-by-case basis. This approach is possible for the affected source categories because the determination of best technically and economically achievable control technology has not changed in many years and is not expected to change in the near future, as decades of case-by-case review has demonstrated. If technology does improve and improved control is possible within the requirements of Best Available Control Technology, the Board of Environmental Review (BER), DEQ by request to the BER, or another party by petition of the BER, could initiate a process to update the rules.

Further, the registration program would limit allowable production to essentially cap the maximum amount of emissions allowable from any one owner/operator at a facility to below the major source thresholds in ARM Title 17, chapter 8, subchapter 12. In other words, a key difference between the No Action Alternative and the Proposed Action is that the proposed registration program would limit the total amount of mass emissions allowable from any one owner/operator in any one location to less than 100 tons per year of any conventional pollutant. For crushing and screening operations and concrete batch plants, particulate matter is the limiting pollutant, and for asphalt plants, carbon monoxide is typically the limiting pollutant. Any entity wishing to operate above the production limits in the registration program would require traditional case-by-case permitting and would not be eligible for registration.

The registration program would require both notice of proposed location, and confirmation of actual location, preserving and improving upon the current/no action alternative regarding public notice. Under the proposed registration rules, operation would be allowed to begin 15 days following registration, and would not require a determination of potential to emit against an applicability threshold.

AFFECTED ENVIRONMENT & IMPACTS OF THE PROPOSED PROJECT

This environmental assessment focuses on the proposed air quality registration program for the crushing and screening, asphalt, and concrete batch plant industries. However, it should be noted there are several other DEQ programs, as well as programs administered by other agencies, that may have environmental assessments that apply to these industries. A couple of DEQ program examples are identified below, and notes regarding potential additional program applicability are included throughout this review:

- Under ARM 17.24.201, an operator conducting opencut operations must comply with the provisions of a contract or permit if the operation results in the removal of more than 10,000 cubic yards of materials and overburden, if more than one operation results in the combined removal of 10,000 cubic yards or more of materials and overburden, or if an opencut operation where

overburden and materials are removed from a previously mined site and the amount mined, combined with the amount of previously removed materials and overburden, exceeds 10,000 cubic yards. Such contracts and permits require MEPA review and reclamation is usually required. These programs limit the impacts such operations would otherwise have.

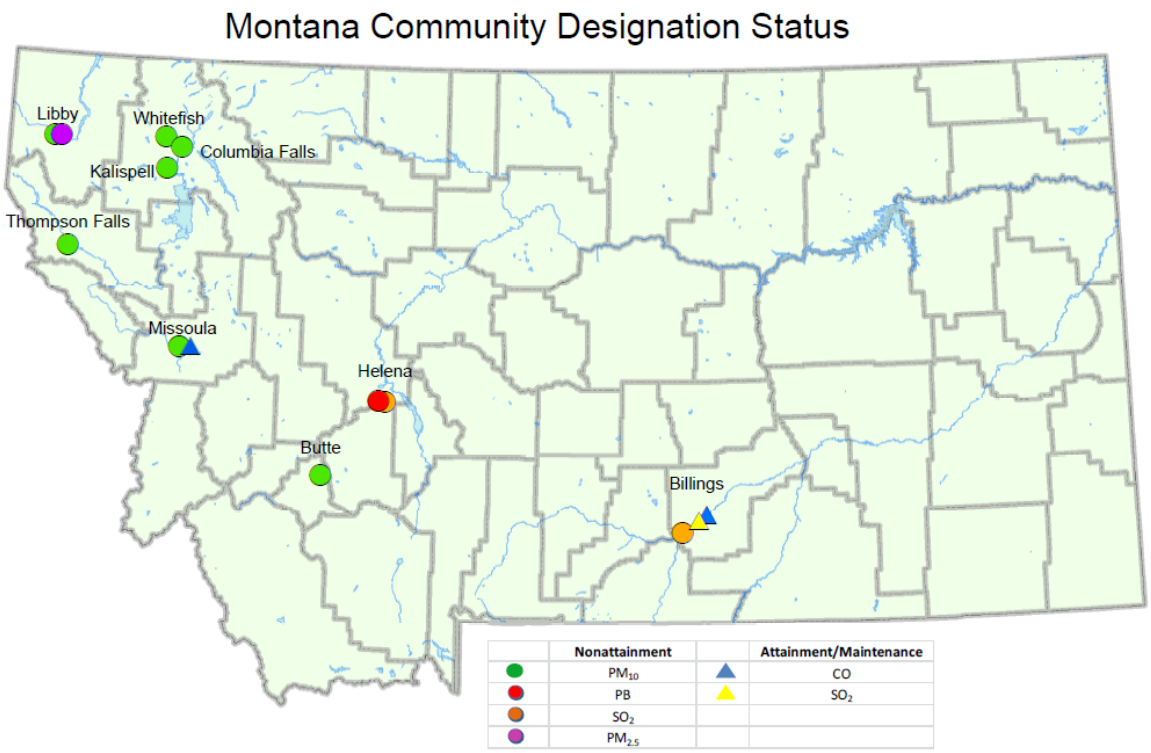
- Montana Pollutant Discharge Elimination System (MPDES) General Permits such as Storm Water Permits or Sand and Gravel Operations Permits may be required. General permit coverage is required for construction activities that include clearing, grading, grubbing, excavation, or other earth disturbing activities that disturb one or more acres and discharge storm water to state surface waters or to a storm system that discharges to a state surface water. The Sand and Gravel General Permit regulates discharges to state surface waters of wash water, transport water, scrubber water, and pit dewatering water or other process water in accordance with effluent limitations, monitoring requirements, and other conditions set forth in the General Permit. These programs protect surface waters of the state, and limit the impacts such operations would otherwise have.

IMPACTS ON THE PHYSICAL ENVIRONMENT

1. Air Quality

In terms of ambient air quality, the primary criteria pollutant of concern in Montana is particulate emissions. Montana's air quality is generally recognized as good for all other pollutants, with some isolated exceptions including sulfur dioxide in the Billings/Laurel area. Montana currently has particulate matter related nonattainment areas in Libby, Whitefish, Kalispell, Columbia Falls, Thompson Falls, Missoula, and Butte. Nonattainment areas are areas where ambient air quality has been measured above the EPA's pollutant specific health-based National Ambient Air Quality Standards, or NAAQS. The EPA designated these areas as nonattainment based on ambient air quality data from the 1980s and 1990s. Since that time, air quality in all the areas has improved so that they meet air quality standards. The DEQ is currently in the process of requesting redesignation of these areas to attainment.

The map below depicts the currently recognized air quality status throughout the state. Areas with no notation are considered attainment/unclassifiable for all criteria pollutants.



In areas identified as not meeting NAAQS, the DEQ studied the major contributing sources of the pollutants of concern and developed "control plans" to address the problems. Such plans outline measures to be undertaken that, when accomplished, are expected to bring the area back into compliance with the NAAQS.

Nonattainment areas are not the only areas where air quality is protected. Nonattainment control plans only represent an extra layer of protection for the areas of highest concern, where ambient air quality has been identified as a problem. Montana's minor and major source permitting requirements of ARM Title 17, Subchapter 8 serve to protect air quality across the entire state, including in nonattainment areas, by requiring appropriate air pollution controls and limiting overall allowable impacts in any one area. These rules require that all sources control emissions in an equitable and fair manner across all industry types, and require the Prevention of Significant Deterioration or Nonattainment New Source Review when such requirements are triggered. Montana requirements that adopt Federal air quality control requirements such as New Source Performance Standards and Maximum Achievable Control Technology also serve to limit emissions statewide.

The Montana Clean Air Act and rules, through ambient air quality monitoring, modeling, emissions control plans, new source performance standards, maximum achievable control technologies, and permitting and registration programs, work as a

whole to protect air quality, protect human health and the environment, and protect National and Montana ambient air quality standards.

The proposed registration program would take the place of the current permitting program for the crushing and screening, asphalt, and concrete batch plant industries. The registration program would not alter other aspects of the overall air quality program under the Montana Clean Air Act. In other words, any requirements contained in a control plan affecting any facility in the covered source categories, now or in the future, would continue to apply. General control requirements and New Source Performance Standards as found in ARM Title 17 chapter 8, subchapter 3 would also continue to apply. Further, although the source categories to which the registration program would apply have not previously been identified as causing or contributing to ambient air quality issues in most locations, registration program coverage would not preclude further emissions limitation in the future for these source categories, should the need arise.

In the areas of Montana identified as having particulate related ambient air quality concerns, no current control plans require special considerations for the minor source permitting program. The registration program would require emissions controls and limit total annual emissions in a manner consistent with current practice, providing equivalent or better ambient air quality protections as compared to the No Action Alternative.

Additionally, the proposed registration program would increase the number of emitting units actively regulated. Currently, and under the No Action Alternative, a Montana Air Quality Permit (MAQP) is required if a facility has the potential to emit more than 15 tons per year of any regulated pollutant. The proposed registration program would cover all emitting units in eligible source categories, regardless of the quantity of pollutants that an individual unit has the potential to emit. The DEQ believes this approach better accommodates the portable nature, and co-locating needs associated with these source categories, and offers assurance of and equity of relevant requirements across these industry source categories.

For the source categories to which the registration program would apply, particulate matter is the pollutant with the highest potential for ambient air quality impacts. As in current practice under the No Action Alternative, the registration program would require control of particulate emissions in a manner representing the highest achievable emissions reductions economically and technically feasible. Such requirements have remained largely unchanged over decades of review and ensure that these source categories are appropriately controlled. Further, the registration program would limit the total amount of mass emissions allowable from any one owner/operator in any one location to a level less than the subchapter 12 major source

threshold, limiting the total allowable impact from any one source. The portable and temporary nature of many operations in these source categories would likely result in considerably less actual emissions than otherwise allowable at any one location for any one continuous period of time.

Impacts:

Assessing the impacts to ambient air quality from transient emissions sources with variable set-ups can be difficult, as numerous variables must be defined to configure any modeling. Such assumptions would include defining the topography and meteorology and assuming specific plant layouts, capacities, and production rates.

Overall, emissions controls and the performance of those controls would remain largely the same or better under the registration program, compared to the No Action Alternative.

The registration program would require emissions controls and limit total annual emissions in a manner providing equivalent or better ambient air quality protections as compared to the No Action Alternative. The DEQ expects that the impacts to ambient air quality from the above-described operations would not increase as a result of implementation of the registration program. In fact, the registration program would potentially increase protections of ambient air quality as compared to the No Action Alternative. This is because the registration program would limit allowable emissions of any owner/operator to less than 100 tons per year in any one location, would require registration of the equipment regardless of size or potential to emit, and would require equivalent or better emissions controls.

2. Terrestrial and Aquatic Life and Habitats:

In general, air pollutants and the deposition of those pollutants may impact terrestrial and aquatic life and habitats.

Terrestrial habitats may be impacted by deposition of dusts on vegetation. Dust deposited on vegetation surfaces can alter the amount of light available for photosynthesis[1], alter gas diffusion with air and alter grazing patterns of animals[2],

[1] Eller BM. 1977. Road dust induced increase of leaf temperature. Environmental Pollution, 137: 99-107; Hope AS, Fleming JB, Stow DA, et al. 1991. Tussock tundra albedos on the north slope of Alaska: Effects of illumination, vegetation composition, and dust deposition. Journal of Applied Meteorology, 30: 1200-1206; Keller J, Lamprecht R. 1995. Road dust as an indicator for air pollution transport and deposition: An application of SPOT imagery. Remote Sensing of the Environment, 54: 1-12

[2] Walker DA, Everett KR. 1987. Road dust and its environmental impact on Alaskan taiga and tundra. Arctic and Alpine Research, 19: 479-489

increase vegetation surface temperatures[3], and potentially alter structure and composition of the plant community.[4]

Deposition of air pollutants into water can affect aquatic life and habitats. Increases in total suspended solids by heavy deposition of dust emissions can change habitat and use, and for both terrestrial and aquatic life and habitats, impacts associated with trace contaminants in dust emissions have impacts commensurate to the amount of dust emissions and the concentration of trace contaminants in those dust emissions.

Impacts from airborne pollutants and their deposition would vary depending on the amount and type of pollutant emitted, and the nature and dispersion characteristics of the emitting unit and surrounding environment. Coarse particulates would likely be deposited relatively close to the operations, and fine particulates would likely be dispersed and deposited farther from the source of emissions.

The air quality controls applicable to the source categories that would be covered by the registration program significantly reduce airborne emissions of particulate matter compared to uncontrolled emissions. As a result, these controls greatly reduce deposition of airborne dust, impacts to air quality, and other factors that may impact terrestrial and aquatic life and habitats. The same controls are applicable to the affected source categories regardless of whether they are applied through an individual permit (such as in the No Action Alternative) or through administrative rule, as they would be in the proposed registration program.

The proposed registration program would increase the number of emitting units actively regulated. Under the No Action Alternative, a Montana Air Quality Permit (MAQP), and the controls included in a permit, is required if a facility has the potential to emit more than the applicable permitting threshold of any regulated pollutant. The registration program would apply to emissions from all registration eligible facilities, regardless of potential to emit.

From an annualized impacts perspective, the No Action Alternative allows up to 250 tons per year of any regulated pollutant to occur at any one location by the same owner/operator. In comparison, the proposed registration program would limit emissions to no more than 100 tons per year at any one location by the same

[3] Spatt PD, Miller MC. 1981. Growth conditions and vitality of Sphagnum in a tundra community along the Alaska pipeline haul road. Arctic, 34: 48-54; Spencer S, Tinnin R. 1997. Effects of coal dust on plant growth and species composition in an arid environment. Journal of Arid Environments, 37: 475-485

[4] Auerbach NA, Walker MD, Walker DA. 1997. Effects of roadside disturbance on substrate and vegetation properties in arctic tundra. Ecological Applications, 7: 218-235; Spencer S, Tinnin R. 1997. Effects of coal dust on plant growth and species composition in an arid environment. Journal of Arid Environments, 37: 475-485

owner/operator, with that total amount of allowable emissions resetting when moving to a new location.

The proposed registration program would require emissions controls and limit total annual emissions in a manner providing equivalent or better ambient air quality protections as compared to the No Action Alternative.

3. Water Quality, Quantity, and Distribution

Under both the proposed registration program and the No Action Alternative, controls requiring water usage are required for various air pollution control requirements. In the case of crushing and screening, water usage requirements vary depending on current weather, moisture content of materials being processed, plant layout, general throughput capacities, and other such factors. Where a wet scrubber is used as air pollution control equipment, the use of water would be required. Water may be pumped from nearby surface water sources, hauled onsite via water trucks and onsite water storage, supplied via well(s), or taken from an available municipal water supply. The use of water results in a large reduction of emissions of particulate matter compared to uncontrolled emissions potentials.

The operations proposed to be subject to the registration program have always been required to use water as a means of emissions control, including in unpaved areas. The registration program would not be expected to have any change in impacts as these requirements are a part of ARM Title 17, chapter 8, subchapter 3, which is not changing in this program.

As described above regarding impacts to aquatic life and habitats, deposition of air pollutants would be expected to be limited, based on the required level of control of pollutants, as well as the total amount of allowable mass emissions of pollutants. Water leaving a site would potentially carry with it sediment. Water runoff to any surrounding waters, directly or indirectly, poses water quality impacts to turbidity, total suspended solids, as well as any impacts from contaminants. This may occur due to runoff of process related water, or rainwater coming from a site. MPDES permits are usually required for discharge of water into surface waters, which offers protection to those waters. The MPDES program reviews the potential for such impacts to occur through a separate analysis, and the MPDES program provides mitigating measures that limit the impacts of such operations. These impacts may also be included in reviews through the Opencut permitting process for some operations.

Numerous programs involving protection of water may apply to these operations, including:

- Any private entity proposing activity that physically alters or modifies the bed or banks of a perennially flowing stream may be required to obtain a "310 Permit" through the Department of Natural Resources and Conservation.
- Any agency or subdivision of state, county, or city government proposing a project that may affect the bed or banks of any stream in Montana may be subject to a "SPA 124 Permit" through the Montana Stream Protection Act, administered by Montana Fish, Wildlife, and Parks.
- Any person, agency, or entity, proposing a project that would result in the discharge or placement of dredged or fill material into waters of the United States may be required to obtain a "404" permit, administered by the US Army Corps of Engineers.
- Any person, agency, or entity proposing any alteration of, or any construction activity in, on, under, or over any federally listed navigable water of the United States may be required to obtain a "Section 10" permit, administered by the US Army Corps of Engineers.
- Any person, agency, or entity, both public and private, initiating construction activity that will cause short term or temporary violations of state surface water quality standards for turbidity, may be required to obtain a "318 Authorization" prior to initiating a project, administered by DEQ and under certain circumstances, Montana Fish, Wildlife, and Parks.
- Any entity proposing a project on lands below the low water mark of navigable waters may be subject to a Montana Land-Use License or Easement on Navigable Waters. This program does not apply to mining or mineral activities.
- Any person, agency, or governmental entity intending to acquire new or additional water rights or change an existing water right in the state may be subject to the Montana Waste Use Act (Water Right Permit and Change Authorization).
- Any person, agency, or entity, either public or private, proposing a construction, industrial, mining, or other defined activity that has a discharge of storm water into surface waters, may be required to obtain a Montana Discharge Elimination System General Permit.

The impacts to water quality, quantity, and distribution in any area that may result from the proposed registration program are not expected to be any greater than the impacts of the No Action Alternative. The registration program would require

emissions controls and limit total annual emissions in a manner providing equivalent or better ambient air quality protections as compared to the No Action Alternative.

4. Geology and Soil Quality, Stability, and Moisture

As discussed above, water usage may result in an increase in soil moisture within the operating areas. Increases in soil moisture may reduce overall soil stability and quality. However, as compared to the No Action Alternative, any increase in impacts is expected to be minor, and the benefits of application of water, are a very large reduction in particulate matter emissions.

The requirements of dust control resulting in water usage are requirements which are part of ARM Title 17 chapter 8 subchapter 3. These requirements are not changing as a result of this program, and therefore, in comparison to the no action alternative, no change in impacts is expected.

As stated previously, certain opencut operations are subject to a separate review and regulation in accordance with ARM 17.24.201.

5. Vegetation Cover, Quantity, and Quality

In general, deposition of air pollutants and decreased ambient air quality impacts vegetation to varying degrees. As previously discussed regarding impacts to terrestrial habitat, dust deposited on vegetation surfaces can alter the amount of light available for photosynthesis, alter gas diffusion with air, alter grazing patterns of animals, increase vegetation surface temperatures, and potentially alter structure and composition of the plant community.

Similar to the No Action Alternative, the proposed registration program and underlying applicable requirements would prescribe air quality control performance and limit total allowable mass emissions at any location. Such requirements significantly decrease potential impacts to vegetation compared to the impacts of uncontrolled operations.

Deposition of pollutants would vary. In general, coarse particulates would likely settle near the point of emissions generation, whereas fine particulates would generally be more dispersed and be deposited farther away. The largest potential for direct impact to vegetation would likely be deposition of coarse particulates near the point of generation. For crushing and screening type operations, where coarse particulate is the pollutant emitted in the largest quantities, much of the particulate is likely to deposit within and very near the operating pit. In the case of asphalt plants, most emissions would be out of a stack. These stacks are usually at least 20 feet high, providing for relatively good dispersion. Concrete batch plants would require controls so that fine particulates would be the main pollutant of ambient impact from the

concrete batch process itself. As previously stated, these fine particulates would be dispersed with distance from the source.

The registration program would require emissions controls and limit total annual emissions in a manner providing equivalent or better ambient air quality protections as compared to the No Action Alternative.

6. Aesthetics

The main impact to aesthetics from the operations which would be covered under the registration program are visible emissions, although the presence of equipment on the landscape and noise associated with operations would also have impacts.

Implementation of the registration program is not expected to cause any change in impacts to aesthetics as compared to the No Action Alternative. Similar to the No Action Alternative, the registration program would require control of particulate emissions, among other pollutants, thereby limiting visible emissions from any operations. In the case of crushing and screening, visible emissions would generally not be allowed to exceed 20% opacity, in accordance with the performance requirement of ARM 17.8.304. In most cases, the visible emissions requirements of 40 CFR Part 60 Subpart OOO, adopted in ARM Title 17 Chapter 8, subchapter 3, would apply, limiting allowable visible emissions to 15% or less. For concrete batch plants and asphalt plants, control of particulate emissions is required such that any visible emissions occurring from emissions stacks would be nearly negligible, with the exception of operations utilizing wet scrubbers. In those operations, a visible water vapor plume may be possible at times from these stacks. Limited fugitive emissions may be visible; however, such emissions would be required to be controlled to 20% opacity or less.

The registration program would require the same or better emissions performance requirements compared to the No Action Alternative.

7. Sage Grouse Executive Order

The registration program would cover crushing and screening, asphalt plant, and concrete batch plant operations. These operations are typically portable in nature. The registration program would require notification of initial locations and notification of changes in locations. The DEQ has developed a digital location tracking system so that any proposed move to a location affected by the sage grouse executive order would trigger an alert to DEQ staff. Upon recognizing a potential move into an area affected by the Sage Grouse Executive Order, DEQ would send notice to the owner/operator of the need to consult the Montana Sage Grouse Oversight Team. This

implementation would be identical to the current process utilized under the No Action Alternative.

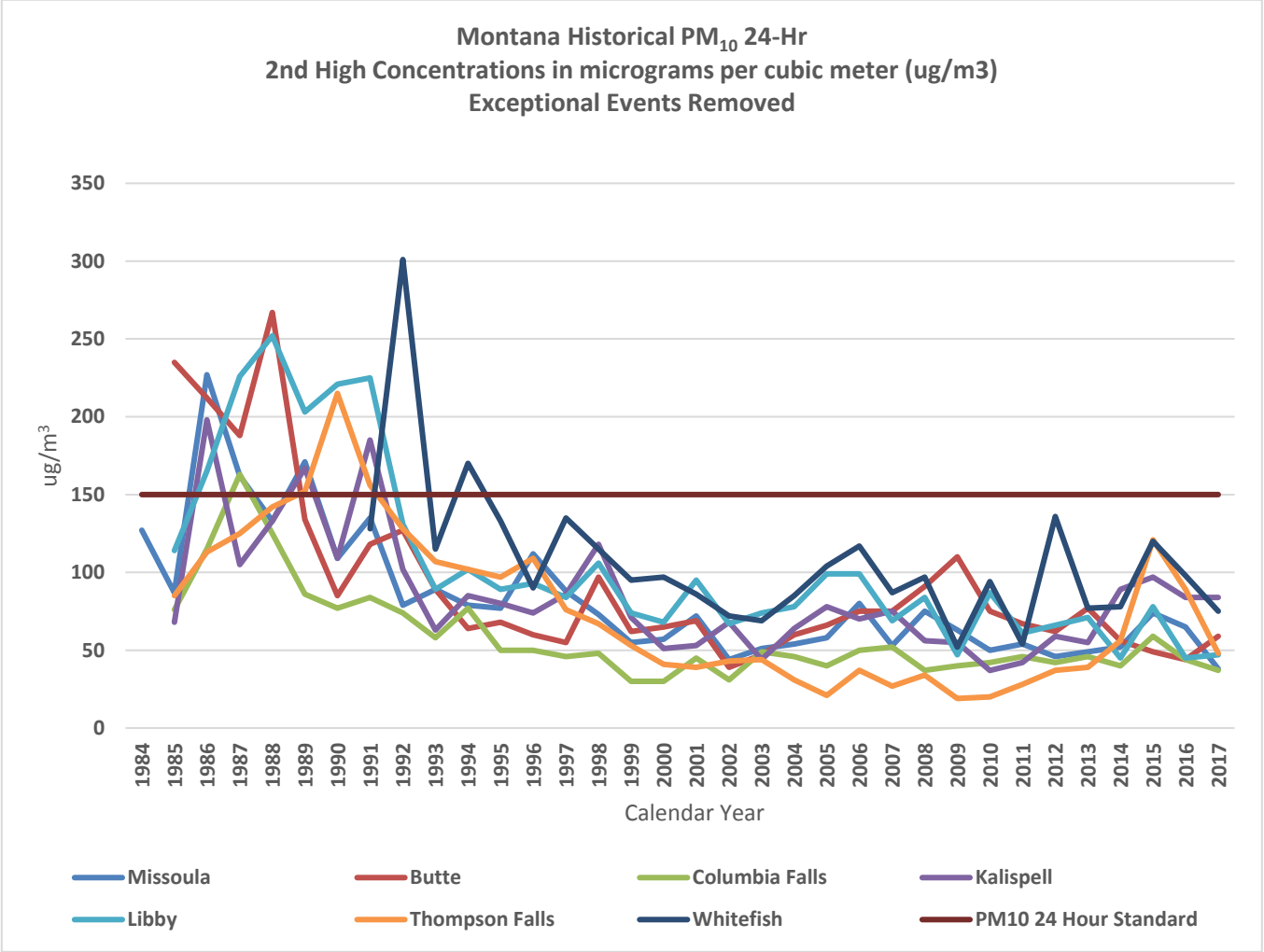
8. Historical and Archaeological Sites

As discussed in reviewing the potential impacts to terrestrial and aquatic life and habitats, deposition of pollutants is limited under current practice and would not be expected to change under the proposed registration program. From an air quality program standpoint, emissions would not be expected to significantly impact any historical or archaeological sites. Deposition of particulate emissions on a nearby site is a possibility; however, based on the controls required, no more than minor impacts would be expected for in such a site.

As discussed in the introduction of this environmental assessment, limited allowable surface disturbances could occur without need for an opencut permitting review. Regulation of such potential surface disturbances is outside the scope and authority of the air quality program under the Montana Clean Air Act, but would require review when such opencut permitting would be required.

9. Cumulative and Secondary Impacts

The overall trend in PM_{10} ambient air quality has generally been improvement with time. The graph on the following page presents monitored levels of PM_{10} ambient air quality over time in PM_{10} nonattainment areas in Montana. This trend has been achieved under the current permitting program, represented by the No Action Alternative. In comparison, the proposed registration program would provide for less allowable emissions. Therefore, the registration program would not be expected to significantly affect the trends observed.



Further, as described in Section 1, the registration program would not alter other aspects of the overall Montana Clean Air Act, in that in any area of concern now or in the future, a control plan could be developed which alters the production limits or other methods of reducing emissions, if the source categories affected by the registration program were ever determined to cause or contribute to nonattainment of a National or Montana Ambient Air Quality Standard within any designated boundary.

The proposed registration program would result in less allowable emissions by any one owner/operator in any one location than the No Action Alternative. No significant impacts to the individual physical and biological considerations above are determined. No significant cumulative impacts would be expected. Further, DEQ is not aware of any current permit or program currently under review which would indicate significant cumulative or secondary impacts when viewed in conjunction with the proposed registration program.

ECONOMIC AND SOCIAL IMPACTS

1. Social Structures and Mores

The registration program would require emissions controls and limit total annual emissions in a manner providing equivalent or better ambient air quality protections as compared to the No Action Alternative. The registration program would not apply to facilities in geographical areas not regulated by DEQ, such as Indian reservations or areas with local air regulatory programs approved by the BER.

Little or no change would be expected as compared to the No Action Alternative.

2. Cultural Uniqueness and Diversity

The registration program would require emissions controls and limit total annual emissions in a manner providing equivalent or better ambient air quality protections as compared to the No Action Alternative. The registration program would not apply to facilities in geographical areas not regulated by DEQ, such as Indian reservations or areas with local air regulatory programs approved by the BER.

These operations, when operating in compliance with applicable requirements, would not be expected to have impacts to cultural uniqueness and diversity, and little or no change would be expected as compared to the No Action Alternative.

3. Local and State Tax Base and Tax Revenue

Little or no change, as compared to the No Action Alternative, would be expected. No significant impacts would be expected to local and state tax base and tax revenue.

4. Agricultural or Industrial Production

The registration program would require emissions controls and limits to total annual emissions, that are equivalent to or more stringent than ambient air quality protections in the No Action Alternative.

As described in Section 2 of Impacts on the Physical Environment, particulate matter deposition can have impacts to plant life. However, emissions controls and total allowable annualized emissions would limit impacts to agricultural or industrial production.

5. Human Health

The registration program would be implemented in accordance with the Clean Air Act, which includes as one of its many goals the protection of human health. The

Department would not expect significant impacts to human health resulting from implementation of the registration program as one part of the overall air quality program in Montana. In comparison to the No Action Alternative, the registration program would provide for less allowable emissions in any one location by any one owner/operator.

6. Access to and Quality of Recreational and Wilderness Activities

The emissions controls required in the proposed rules, which limit visible emissions and impacts, would limit impacts to recreational and wilderness activities. As under the No Action Alternative, in no case would visible emissions greater than 20% be allowable. As described above, the DEQ would not expect significant impacts to physical considerations.

As discussed earlier in this document, opencut operations must comply with permit or contract requirements in accordance with ARM 17.24.201. Such contracts and permits require MEPA review. Limited disturbances could occur without further review, and reclamation is usually required, limiting the impacts such operations would otherwise have.

7. Quantity and Distribution of Employment

Implementation of the proposed registration program would not be expected to have any difference in impact on the quantity and distribution of employment as compared to the No Action Alternative. The Department does not expect a significant impact as a result of the proposed registration program.

8. Distribution of Population

Implementation of the proposed registration program would not be expected to have any difference in impact on the distribution of population as compared to the No Action Alternative. The DEQ does not expect a significant impact as a result of the proposed registration program.

9. Demands for Government Services

A driving factor behind the proposed registration program is the desire to decrease the administrative permitting burden on DEQ for certain source categories. The long-term impact expected as a result of implementation of the registration program is reduced overall demand for government services. A short-term increase in overall demand for resources may be encountered during program development and transition.

10. Industrial and Commercial Activity

Implementation of the proposed registration program may have a slight difference in impact on industrial and commercial activity as compared to the No Action Alternative. A driving factor behind the proposed registration program is the desire to improve the efficiency and effectiveness of the resources that protect air quality. Implementation of the registration program would free resources to provide education and assistance to this industry and to increase the field presence of staff that ensure compliance with air quality requirements. In addition, shortened wait times for industrial or commercial operations requiring air quality permitting for new or modified operations will occur, allowing work to begin or resume more quickly. However, the DEQ would not expect a significant impact to industrial and commercial activity as a result of the registration program.

11. Locally Adopted Environmental Plans and Goals

Butte-Silver Bow, Cascade, Flathead, Lewis & Clark, Lincoln, Missoula, and Yellowstone counties have air quality programs approved by the BER. Of these, Missoula County is the only one with a permitting program for the source categories that the registration program would cover. Within Missoula County, the state registration program would not supersede Missoula county permitting rules. However, adoption of the proposed registration program at the state level may necessitate updates to existing rules and/or policies and practices in Missoula County. The DEQ would work with air quality staff in Missoula County should this be necessary.

12. Cumulative and Secondary Impacts

As compared to the no action alternative, little to no impacts would be expected in the above economic and social considerations. Further, DEQ is not aware of any current permit or program currently under review which would indicate significant cumulative or secondary impacts when viewed in conjunction with the proposed registration program. Significant cumulative or secondary impacts would not be expected.